

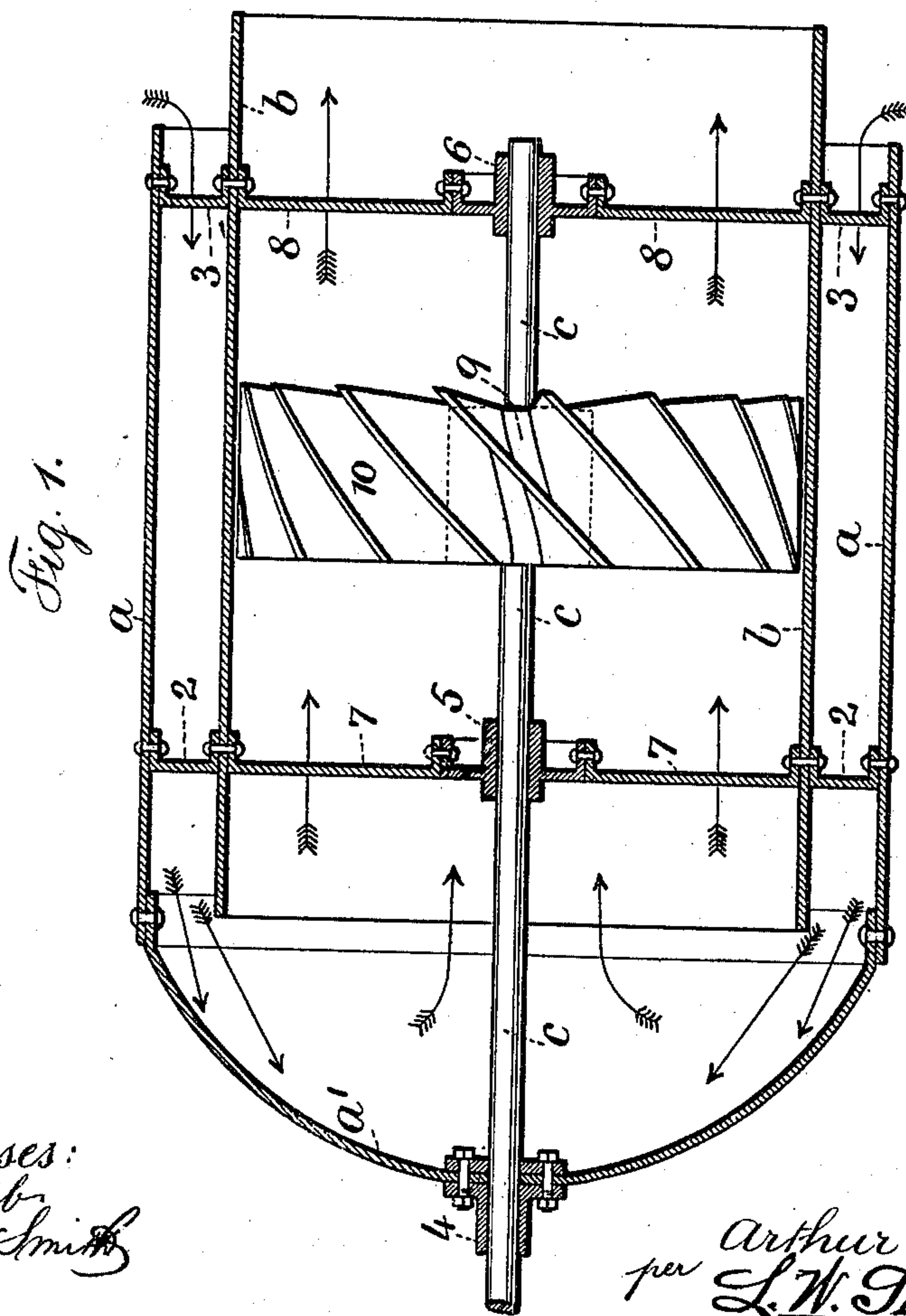
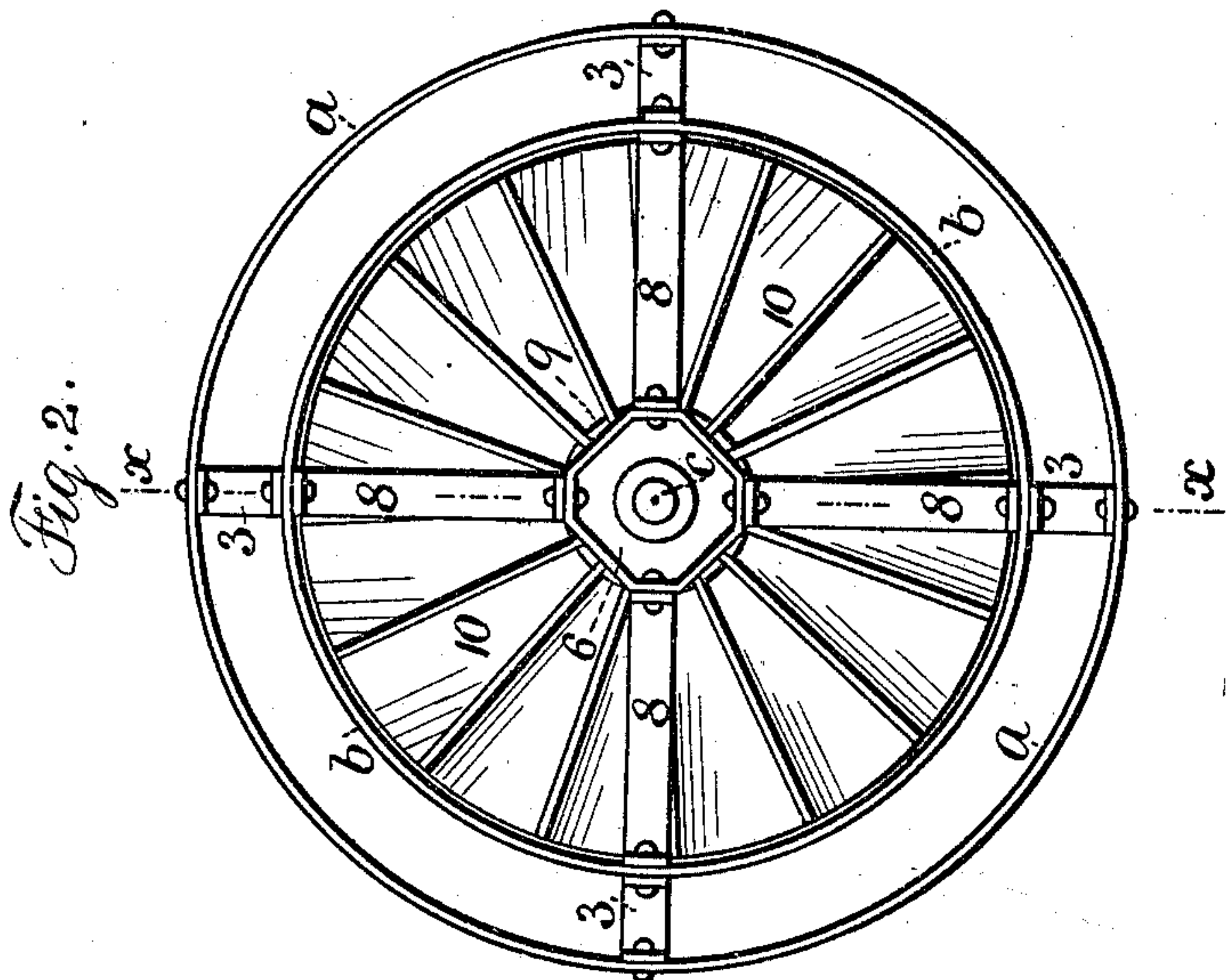
No. 719,172.

PATENTED JAN. 27, 1903.

A. DE BAUSSET.
PROPELLER.

APPLICATION FILED OCT. 17, 1901. RENEWED JULY 2, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR DE BAUSSET, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND
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PROPELLER.

SPECIFICATION forming part of Letters Patent No. 719,172, dated January 27, 1903.

Application filed October 17, 1901. Renewed July 2, 1902. Serial No. 114,127. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR DE BAUSSET, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented an Improvement in Propellers, of which the following is a specification.

My invention relates to a form of propeller device adapted for use in connection with vessels or air-ships and as a means for propelling the same either when placed in water or in the air.

In carrying out my invention I employ an outer and an inner cylinder. The inner cylinder is open-ended, and the outer cylinder is open at one end and provided with an approximately hemispherical closure at the other end. The inner cylinder is advantageously slightly longer than the outer cylinder, so that one end thereof projects beyond the adjacent end of the outer cylinder, and the cylinders are fixed in their relation to one another by series of plate-brackets or equivalent mechanical devices. A shaft passes into the inner cylinder through the substantially hemispherical end of the outer cylinder, there being suitable bearings for the shaft, and upon said shaft is a propeller of any desired construction within the inner cylinder. The area of the annular opening between the outer and inner cylinders is advantageously slightly less than the area of the open end of the inner cylinder. The action of the propeller is to force the air or water out of the open end of the inner cylinder and to draw in air or water in the annular opening between the two cylinders toward the hemispherical end closure of the outer cylinder, the same turning into the inner cylinder to be forced out by the propeller. This difference in area has the effect of causing the air or water entering between the two cylinders to rush in with an accelerated momentum, impinging upon the hemispherical end closure and producing the effect of recoil, acting in the same direction as the movement caused by the rotation of the propeller.

In the drawings, Figure 1 is a longitudinal section and partial elevation representing my improvement; and Fig. 2 is an end view of

the same, the section Fig. 1 being taken upon the dotted line *xx* of Fig. 2.

The outer cylinder *a* is parallel-sided, of suitable length, and is provided with an approximately hemispherical end closure *a'*, the opposite end thereof being open. These parts are of sheet metal and may be connected in any desired or mechanical way. The outer cylinder is advantageously supported or fixed in any desired position by any mechanical device, according to the place the same is to occupy, the device to which the same is attached, or the service that the same is to render.

The inner cylinder *b* is open-ended and preferably slightly longer than the parallel-sided portion of the outer cylinder, with the outer end projecting somewhat beyond the end of the outer cylinder and the inner end advantageously short of the plane of the outer cylinder. The two cylinders are placed concentric and are advantageously connected by series of plate-brackets 2 3 between and secured thereto, and I provide series of radial bracket-arms 7 8, connected at one end to the inner cylinder and preferably adjacent to the connections therewith of the plate-brackets 2 3, the other ends of said series of bracket-arms being connected to bearings 5 6 for the central longitudinal shaft *c*, there being also a bearing 4 for said shaft in the hemispherical end closure *a'*, the said plate-brackets 2 3 and the radial plate-brackets 7 and 8 and the bearings 5 6 being advantageously fixed in their relation to one another. The shaft *c* is free to turn in the bearings 4 5 6 and may be rotated by any suitable motor or power device.

9 is the hub and 10 the blades of a propeller of any suitable or desired form and any number of blades secured to the shaft *c* so as to be turned thereby, the said propeller device being entirely within the inner cylinder and approximately closely fitting the same.

The area of the annular opening between the outer cylinder *a* and the inner cylinder *b* is advantageously slightly less than the area of the open end of the inner cylinder *b*. The action of the propeller is to force the air or

water out of the open end of the inner cylinder and to draw air or water in the annular opening between the outer and inner cylinders, and because of the difference of area an impetus or accelerated movement is necessarily given to the ingoing air or water, causing a rush of the same, which impinges against the inner surface of the approximately hemispherical end a' , producing the effect of a recoil having a tendency to force the cylinders in the direction of impact, which necessarily is in the same direction produced by the action of the propeller, the two actions having a tendency to increase the movement or speed of the cylinders and whatever vessel or device the same is connected to.

The device of my present application is applicable to the air-ship device of my application filed September 7, 1901, Serial No. 74,593.

I claim as my invention--

1. The combination with a shaft and propeller mounted thereon, of an open-ended cylinder receiving the propeller and in which the same is adapted to be rotated, a cylinder surrounding the aforesaid cylinder with an appreciable annular space between the cylinders, the outer cylinder being open at one end and closed at the other end, bearings for the said shaft, and devices maintaining the cylinders in a fixed relation to one another, substantially as set forth.

2. The combination with a shaft and propeller mounted thereon, of inner and outer cylinders substantially concentric, the inner cylinder being open-ended and receiving the propeller, the outer cylinder being open at one end and having an approximately hemispherical closure at the opposite end, bearings for the shaft of the propeller, and devices for maintaining the cylinders in a fixed relation to one another, substantially as set forth.

3. The combination with a shaft and a propeller mounted thereon, of inner and outer concentric cylinders, the inner cylinder being open-ended and receiving the propeller, the outer cylinder being open at one end and having an approximately hemispherical closure at the opposite end, bearings for the shaft of the propeller in the end closure of the outer cylinder and in devices extending across and connected to the inner cylinder, and series of plate-brackets or equivalent devices between and connecting the inner and outer cylinders, substantially as set forth.

4. The combination with a shaft and a propeller mounted thereon, of inner and outer concentric cylinders, the inner cylinder being open-ended and receiving the propeller, the outer cylinder being open at one end and having an approximately hemispherical closure at the opposite end, bearings for the shaft of the propeller in the end closure of the outer cylinder and in devices extending across and connected to the inner cylinder, and series of plate-brackets or equivalent devices between and connecting the inner and outer cylinders, the outer end of the inner cylinder extending appreciably beyond the open end of the outer cylinder, substantially as set forth.

5. The combination with a shaft and a propeller mounted thereon, of inner and outer concentric cylinders, the inner cylinder being open-ended and receiving the propeller, the outer cylinder being open at one end and having an approximately hemispherical closure at the opposite end, bearings for the shaft of the propeller in the end closure of the outer cylinder and in devices extending across and connected to the inner cylinder and series of plate-brackets or equivalent devices between and connecting the inner and outer cylinders, the area of the annular opening between the outer and inner cylinders being appreciably less than the area of the open end of the inner cylinder, substantially as set forth.

6. The combination with a shaft and a propeller mounted thereon, of inner and outer concentric cylinders, the inner cylinder being open-ended and receiving the propeller, the outer cylinder being open at one end and having an approximately hemispherical closure at the opposite end, bearings for the shaft of the propeller in the end closure of the outer cylinder and in devices extending across and connected to the inner cylinder, and series of plate-brackets or equivalent devices between and connecting the inner and outer cylinders, the outer end of the inner cylinder extending appreciably beyond the open end of the outer cylinder, and the inner end of the inner cylinder being appreciably short of the plane of the end of the outer cylinder adjacent to the end closure, substantially as set forth.

Signed by me this 15th day of October, 1901.

ARTHUR DE BAUSSET.

Witnesses:

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